

#6

RECEIVED

AUG 20 2002

TECH CENTER 1600/2900



PCT

RAW SEQUENCE LISTING

PATENT APPLICATION: PCT/US02/14570

DATE: 05/31/2002

TIME: 09:05:49

Input Set : A:\3198-WO.txt

Output Set: N:\CRF3\05312002\PU14570.raw

ENTERED

3 <110> APPLICANT: IMMUNEX CORPORATION
 4 Derry, Jonathan M. J.
 5 Fanslow III, William
 6 Dougall, William C.
 8 <120> TITLE OF INVENTION: SCREENING ASSAYS FOR AGONISTS OR ANTAGONISTS OF CD40
 SIGNALING
 10 <130> FILE REFERENCE: 3198-WO
 C--> 12 <140> CURRENT APPLICATION NUMBER: PCT/US02/14570
 13 <141> CURRENT FILING DATE: 2002-05-07
 15 <150> PRIOR APPLICATION NUMBER: 09/851,673
 16 <151> PRIOR FILING DATE: 2001-05-08
 18 <160> NUMBER OF SEQ ID NOS: 4
 20 <170> SOFTWARE: PatentIn version 3.1
 22 <210> SEQ ID NO: 1
 23 <211> LENGTH: 1994
 24 <212> TYPE: DNA
 25 <213> ORGANISM: Homo sapiens
 27 <220> FEATURE:
 28 <221> NAME/KEY: CDS
 29 <222> LOCATION: (149)..(1405)
 30 <223> OTHER INFORMATION:
 33 <400> SEQUENCE: 1
 34 ggcacgagca tggcccttgt gatccaggtg gggaaactaa ggcccagaga agtgaggacc 60
 36 ccgcagacta tcaatcccag tctcttcccc tcaactccctg tgaagctctc cagcatcatc 120
 38 gaggtcccat cagcccttgc cctgttgg atg aat agg cac ctc tgg aag agc 172
 39 Met Asn Arg His Leu Trp Lys Ser
 40 1 5
 42 caa ctg tgt gag atg gtg cag ccc agt ggt ggc ccg gca gca gat cag 220
 43 Gln Leu Cys Glu Met Val Gln Pro Ser Gly Gly Pro Ala Ala Asp Gln
 44 10 15 20
 46 gac gta ctg ggc gaa gag tct cct ctg ggg aag cca gcc atg ctg cac 268
 47 Asp Val Leu Gly Glu Glu Ser Pro Leu Gly Lys Pro Ala Met Leu His
 48 25 30 35 40
 50 ctg cct tca gaa cag ggc gct cct gag acc ctc cag cgc tgc ctg gag 316
 51 Leu Pro Ser Glu Gln Gly Ala Pro Glu Thr Leu Gln Arg Cys Leu Glu
 52 45 50 55
 54 gag aat caa gag ctc cga gat gcc atc cgg cag agc aac cag att ctg 364
 55 Glu Asn Gln Glu Leu Arg Asp Ala Ile Arg Gln Ser Asn Gln Ile Leu
 56 60 65 70
 58 cgg gag cgc tgc gag gag ctt ctg cat ttc caa gcc agc cag agg gag 412
 59 Arg Glu Arg Cys Glu Glu Leu Leu His Phe Gln Ala Ser Gln Arg Glu
 60 75 80 85
 62 gag aag gag ttc ctc atg tgc aag ttc cag gag gcc agg aaa ctg gtg 460
 63 Glu Lys Glu Phe Leu Met Cys Lys Phe Gln Glu Ala Arg Lys Leu Val

RAW SEQUENCE LISTING

DATE: 05/31/2002

PATENT APPLICATION: PCT/US02/14570

TIME: 09:05:49

Input Set : A:\3198-WO.txt

Output Set: N:\CRF3\05312002\PU14570.raw

64	90	95	100	
66	gag aga ctc ggc ctg gag aag ctc gat ctg aag agg cag aag gag cag	508		
67	Glu Arg Leu Gly Leu Glu Lys Leu Asp Leu Lys Arg Gln Lys Glu Gln			
68	105	110	115	120
70	gct ctg cgg gag gtg gag cac ctg aag aga tgc cag cag cag atg gct	556		
71	Ala Leu Arg Glu Val Glu His Leu Lys Arg Cys Gln Gln Gln Met Ala			
72	125	130	135	
74	gag gac aag gcc tct gtg aaa gcc cag gtg acg tcc ttg ctc ggg gag	604		
75	Glu Asp Lys Ala Ser Val Lys Ala Gln Val Thr Ser Leu Leu Gly Glu			
76	140	145	150	
78	ctg cag gag agc cag agt cgc ttg gag gct gcc act aag gaa tgc cag	652		
79	Leu Gln Glu Ser Gln Ser Arg Leu Glu Ala Ala Thr Lys Glu Cys Gln			
80	155	160	165	
82	gct ctg gag ggt cgg gcc cgg gcg gcc agc gag cag gcg cgg cag ctg	700		
83	Ala Leu Glu Gly Arg Ala Arg Ala Ala Ser Glu Gln Ala Arg Gln Leu			
84	170	175	180	
86	gag agt gag cgc gag gcg ctg cag cag cag cac agc gtg cag gtg gac	748		
87	Glu Ser Glu Arg Glu Ala Leu Gln Gln Gln His Ser Val Gln Val Asp			
88	185	190	195	200
90	cag ctg cgc atg cag ggc cag agc gtg gag gcc gcg ctc cgc atg gag	796		
91	Gln Leu Arg Met Gln Gly Gln Ser Val Glu Ala Ala Leu Arg Met Glu			
92	205	210	215	
94	cgc cag gcc gcc tcg gag gag aag agg aag ctg gcc cag ttg cag gtg	844		
95	Arg Gln Ala Ala Ser Glu Glu Lys Arg Lys Leu Ala Gln Leu Gln Val			
96	220	225	230	
98	gcc tat cac cag ctc ttc caa gaa tac gac aac cac atc aag agc agc	892		
99	Ala Tyr His Gln Leu Phe Gln Glu Tyr Asp Asn His Ile Lys Ser Ser			
100	235	240	245	
102	gtg gtg ggc agt gag cgg aag cga gga atg cag ctg gaa gat ctc aaa	940		
103	Val Val Gly Ser Glu Arg Lys Arg Gly Met Gln Leu Glu Asp Leu Lys			
104	250	255	260	
106	cag cag ctc cag cag gcc gag gag gcc ctg gtg gcc aaa cag gag gtg	988		
107	Gln Gln Leu Gln Gln Ala Glu Glu Ala Leu Val Ala Lys Gln Glu Val			
108	265	270	275	280
110	atc gat aag ctg aag gag gag gcc gag cag cac aag att gtg atg gag	1036		
111	Ile Asp Lys Leu Lys Glu Glu Ala Glu Gln His Lys Ile Val Met Glu			
112	285	290	295	
114	acc gtt ccg gtg ctg aag gcc cag gcg gat atc tac aag gcg gac ttc	1084		
115	Thr Val Pro Val Leu Lys Ala Gln Ala Asp Ile Tyr Lys Ala Asp Phe			
116	300	305	310	
118	cag gct gag agg cag gcc cgg gag aag ctg gcc gag aag aag gag ctc	1132		
119	Gln Ala Glu Arg Gln Ala Arg Glu Lys Leu Ala Glu Lys Lys Glu Leu			
120	315	320	325	
122	ctg cag gag cag ctg gag cag ctg cag agg gag tac agc aaa ctg aag	1180		
123	Leu Gln Glu Gln Leu Glu Gln Leu Gln Arg Glu Tyr Ser Lys Leu Lys			
124	330	335	340	
126	gcc agc tgt cag gag tcg gcc agg atc gag gac atg agg aag cgg cat	1228		
127	Ala Ser Cys Gln Glu Ser Ala Arg Ile Glu Asp Met Arg Lys Arg His			
128	345	350	355	360

RAW SEQUENCE LISTING

DATE: 05/31/2002

PATENT APPLICATION: PCT/US02/14570

TIME: 09:05:49

Input Set : A:\3198-WO.txt

Output Set: N:\CRF3\05312002\PU14570.raw

```

130 gtc gag gtc tcc cag gcc ccc ttg ccc ccc gcc cct gcc tac ctc tcc      1276
131 Val Glu Val Ser Gln Ala Pro Leu Pro Pro Ala Pro Ala Tyr Leu Ser
132              365              370              375
134 tct ccc ctg gcc ctg ccc agc cag agg agg agc ccc ccc gag gag cca      1324
135 Ser Pro Leu Ala Leu Pro Ser Gln Arg Arg Ser Pro Pro Glu Glu Pro
136              380              385              390
138 cct gac ttc tgc tgt ccc aag tgc cag tat cag gcc cct gat atg gac      1372
139 Pro Asp Phe Cys Cys Pro Lys Cys Gln Tyr Gln Ala Pro Asp Met Asp
140              395              400              405
142 acc ctg cag ata cat gtc atg gag tgc att gag tagggccggc cagtgcgaagg      1425
143 Thr Leu Gln Ile His Val Met Glu Cys Ile Glu
144      410              415
146 ccactgcctg cccgaggacg tgcccgggac cgtgcagtct gcgctttcct ctcccgcctg      1485
148 cctagcccag gatgaagggc tgggtggcca caactgggat gccacctgga gccccaccca      1545
150 ggagctggcc gcggcacctt acgcttcagc tgttgatccg ctggtcccct cttttggggt      1605
152 agatgcggcc ccgatcaggc ctgactcgct gctctttttg ttcccttctg tctgctcgaa      1665
154 ccacttgccct cgggctaata cctccctctt cctccacccg gcactgggga agtcaagaat      1725
156 ggggcctggg gctctcaggg agaactgctt cccctggcag agctgggtgg cagctcttcc      1785
158 tcccaccgga caccgaccgc cccgcgcgtg tgccctggga gtgctgccct cttaccatgc      1845
160 acacgggtgc tctccttttg ggctgcatgc tattccattt tgcagccaga ccgatgtgta      1905
162 ttttaaccagt cactattgat ggacatttgg gttgtttccc atctttttgt taccataaat      1965
164 aatggcatag taaaaaaaaa aaaaaaaaaa
167 <210> SEQ ID NO: 2
168 <211> LENGTH: 419
169 <212> TYPE: PRT
170 <213> ORGANISM: Homo sapiens
172 <400> SEQUENCE: 2
174 Met Asn Arg His Leu Trp Lys Ser Gln Leu Cys Glu Met Val Gln Pro
175 1              5              10              15
178 Ser Gly Gly Pro Ala Ala Asp Gln Asp Val Leu Gly Glu Glu Ser Pro
179              20              25              30
182 Leu Gly Lys Pro Ala Met Leu His Leu Pro Ser Glu Gln Gly Ala Pro
183              35              40              45
186 Glu Thr Leu Gln Arg Cys Leu Glu Glu Asn Gln Glu Leu Arg Asp Ala
187              50              55              60
190 Ile Arg Gln Ser Asn Gln Ile Leu Arg Glu Arg Cys Glu Glu Leu Leu
191 65              70              75              80
194 His Phe Gln Ala Ser Gln Arg Glu Glu Lys Glu Phe Leu Met Cys Lys
195              85              90              95
198 Phe Gln Glu Ala Arg Lys Leu Val Glu Arg Leu Gly Leu Glu Lys Leu
199              100             105             110
202 Asp Leu Lys Arg Gln Lys Glu Gln Ala Leu Arg Glu Val Glu His Leu
203              115             120             125
206 Lys Arg Cys Gln Gln Gln Met Ala Glu Asp Lys Ala Ser Val Lys Ala
207              130             135             140
210 Gln Val Thr Ser Leu Leu Gly Glu Leu Gln Glu Ser Gln Ser Arg Leu
211 145             150             155             160
214 Glu Ala Ala Thr Lys Glu Cys Gln Ala Leu Glu Gly Arg Ala Arg Ala
215             165             170             175

```

RAW SEQUENCE LISTING

DATE: 05/31/2002

PATENT APPLICATION: PCT/US02/14570

TIME: 09:05:49

Input Set : A:\3198-WO.txt

Output Set: N:\CRF3\05312002\PU14570.raw

```

218 Ala Ser Glu Gln Ala Arg Gln Leu Glu Ser Glu Arg Glu Ala Leu Gln
219             180             185             190
222 Gln Gln His Ser Val Gln Val Asp Gln Leu Arg Met Gln Gly Gln Ser
223             195             200             205
226 Val Glu Ala Ala Leu Arg Met Glu Arg Gln Ala Ala Ser Glu Glu Lys
227             210             215             220
230 Arg Lys Leu Ala Gln Leu Gln Val Ala Tyr His Gln Leu Phe Gln Glu
231 225             230             235             240
234 Tyr Asp Asn His Ile Lys Ser Ser Val Val Gly Ser Glu Arg Lys Arg
235             245             250             255
238 Gly Met Gln Leu Glu Asp Leu Lys Gln Gln Leu Gln Gln Ala Glu Glu
239             260             265             270
242 Ala Leu Val Ala Lys Gln Glu Val Ile Asp Lys Leu Lys Glu Glu Ala
243             275             280             285
246 Glu Gln His Lys Ile Val Met Glu Thr Val Pro Val Leu Lys Ala Gln
247             290             295             300
250 Ala Asp Ile Tyr Lys Ala Asp Phe Gln Ala Glu Arg Gln Ala Arg Glu
251 305             310             315             320
254 Lys Leu Ala Glu Lys Lys Glu Leu Leu Gln Glu Gln Leu Glu Gln Leu
255             325             330             335
258 Gln Arg Glu Tyr Ser Lys Leu Lys Ala Ser Cys Gln Glu Ser Ala Arg
259             340             345             350
262 Ile Glu Asp Met Arg Lys Arg His Val Glu Val Ser Gln Ala Pro Leu
263             355             360             365
266 Pro Pro Ala Pro Ala Tyr Leu Ser Ser Pro Leu Ala Leu Pro Ser Gln
267             370             375             380
270 Arg Arg Ser Pro Pro Glu Glu Pro Pro Asp Phe Cys Cys Pro Lys Cys
271 385             390             395             400
274 Gln Tyr Gln Ala Pro Asp Met Asp Thr Leu Gln Ile His Val Met Glu
275             405             410             415
278 Cys Ile Glu
282 <210> SEQ ID NO: 3
283 <211> LENGTH: 5371
284 <212> TYPE: DNA
285 <213> ORGANISM: Homo sapiens
287 <220> FEATURE:
288 <221> NAME/KEY: CDS
289 <222> LOCATION: (392)..(3262)
290 <223> OTHER INFORMATION:
293 <400> SEQUENCE: 3
294 gggggcgggc ccaggtagca ggtttggctg cgcgggggcc gcgcgtcgga gtttccccct      60
296 ttctaggggtg aggatgggtc tacacagcca cccggagttc cttagttgaa aggtgcgccc      120
298 tgctgtgaca gaatgtggtg attgtaatct ttaacatttt catgtaaaac atatttcctg      180
300 atcatctttc cattgtcttc atggaaaatt gataaatatt tgtgccttcc aactctcgtc      240
302 ttggttgaat gacttcatct taatacaaca tggacaccac gttgctgaaa acatgctttg      300
304 ggactgccac tgaatttatc ttttgcggtt ttatgacaaa gttattagta gtttcccttt      360
306 tttgaattag tattttgaag ttaatatcac a atg agt tca ggc tta tgg agc      412
307                               Met Ser Ser Gly Leu Trp Ser
308                               1                               5

```

RAW SEQUENCE LISTING

DATE: 05/31/2002

PATENT APPLICATION: PCT/US02/14570

TIME: 09:05:49

Input Set : A:\3198-WO.txt

Output Set: N:\CRF3\05312002\PU14570.raw

```

310  caa gaa aaa gtc act tca ccc tac tgg gaa gag cgg att ttt tac ttg      460
311  Gln Glu Lys Val Thr Ser Pro Tyr Trp Glu Glu Arg Ile Phe Tyr Leu
312          10                      15                      20
314  ctt ctt caa gaa tgc agc gtt aca gac aaa caa aca caa aag ctc ctt      508
315  Leu Leu Gln Glu Cys Ser Val Thr Asp Lys Gln Thr Gln Lys Leu Leu
316      25                      30                      35
318  aaa gta ccg aag gga agt ata gga cag tat att caa gat cgt tct gtg      556
319  Lys Val Pro Lys Gly Ser Ile Gly Gln Tyr Ile Gln Asp Arg Ser Val
320  40                      45                      50                      55
322  ggg cat tca agg att cct tct gca aaa ggc aag aaa aat cag att gga      604
323  Gly His Ser Arg Ile Pro Ser Ala Lys Gly Lys Lys Asn Gln Ile Gly
324          60                      65                      70
326  tta aaa att cta gag caa cct cat gca gtt ctc ttt gtt gat gaa aag      652
327  Leu Lys Ile Leu Glu Gln Pro His Ala Val Leu Phe Val Asp Glu Lys
328          75                      80                      85
330  gat gtt gta gag ata aat gaa aag ttc aca gag tta ctt ttg gca att      700
331  Asp Val Val Glu Ile Asn Glu Lys Phe Thr Glu Leu Leu Leu Ala Ile
332      90                      95                      100
334  acc aat tgt gag gag agg ttc agc ctg ttt aaa aac aga aac aga cta      748
335  Thr Asn Cys Glu Glu Arg Phe Ser Leu Phe Lys Asn Arg Asn Arg Leu
336      105                      110                      115
338  agt aaa ggc ctc caa ata gac gtg ggc tgt cct gtg aaa gta cag ctg      796
339  Ser Lys Gly Leu Gln Ile Asp Val Gly Cys Pro Val Lys Val Gln Leu
340  120                      125                      130                      135
342  aga tct ggg gaa gaa aaa ttt cct gga gtt gta cgc ttc aga gga ccc      844
343  Arg Ser Gly Glu Glu Lys Phe Pro Gly Val Val Arg Phe Arg Gly Pro
344          140                      145                      150
346  ctg tta gca gag agg aca gtc tcc gga ata ttc ttt gga gtt gaa ttg      892
347  Leu Leu Ala Glu Arg Thr Val Ser Gly Ile Phe Phe Gly Val Glu Leu
348          155                      160                      165
350  ctg gaa gaa ggt cgt ggt caa ggt ttc act gac ggg gtg tac caa ggg      940
351  Leu Glu Glu Gly Arg Gly Gln Gly Phe Thr Asp Gly Val Tyr Gln Gly
352      170                      175                      180
354  aaa cag ctt ttt cag tgt gat gaa gat tgt ggc gtg ttt gtt gca ttg      988
355  Lys Gln Leu Phe Gln Cys Asp Glu Asp Cys Gly Val Phe Val Ala Leu
356      185                      190                      195
358  gac aag cta gaa ctc ata gaa gat gat gac act gca ttg gaa agt gat      1036
359  Asp Lys Leu Glu Leu Ile Glu Asp Asp Asp Thr Ala Leu Glu Ser Asp
360  200                      205                      210                      215
362  tac gca ggt cct ggg gac aca atg cag gtc gaa ctt cct cct ttg gaa      1084
363  Tyr Ala Gly Pro Gly Asp Thr Met Gln Val Glu Leu Pro Pro Leu Glu
364          220                      225                      230
366  ata aac tcc aga gtt tct ttg aag gtt gga gaa aca ata gaa tct gga      1132
367  Ile Asn Ser Arg Val Ser Leu Lys Val Gly Glu Thr Ile Glu Ser Gly
368          235                      240                      245
370  aca gtt ata ttc tgt gat gtt ttg cca gga aaa gaa agc tta gga tat      1180
371  Thr Val Ile Phe Cys Asp Val Leu Pro Gly Lys Glu Ser Leu Gly Tyr
372      250                      255                      260
374  ttt gtt ggt gtg gac atg gat aac cct att ggc aac tgg gat gga aga      1228

```

VERIFICATION SUMMARY

DATE: 05/31/2002

PATENT APPLICATION: PCT/US02/14570

TIME: 09:05:50

Input Set : A:\3198-WO.txt

Output Set: N:\CRF3\05312002\PU14570.raw

L:12 M:270 C: Current Application Number differs, Replaced Current Application Number